Finally, after many invitations, the opportunity came for a personal examination of the station and on June 23, 1925, with Miss Bertha E. Christiansen, I visited the low open wild woods in the east part of the town where, remote from habitation, still grew the small native colony of Black Snakeroot, from which came Murdoch's specimens in 1913.

It is pleasant now to add this note to what I wrote in RHODORA in 1921, as it brings this attractive plant sixty miles further as a native into Massachusetts, and nearly to the Connecticut River and to the Vermont line.—J. R. CHURCHILL, Dorchester, Massachusetts.

VICTORIN'S TREATMENT OF THE LYCOPODIALES OF QUEBEC.

CLARENCE H. KNOWLTON.

IN his significant monograph of the club mosses[1] of Quebec Brother Victorin has added a companion volume to his fascinating work on the ferns[2] of the same region. Like that it falls into two parts, discussion and systematic treatment. The present volume treats very fully four species of Isoëtes, three of Selaginella, and no less than eleven of Lycopodium, together with many varieties and forms, of which several are new to science.

The author shows himself thoroughly familiar with the geological history of eastern North America and its relation to the flora. He has carefully studied the literature of the group, with special attention to the work of Lloyd and Underwood. The result is a scholarly and interesting treatise showing good and critical judgment, the result of twenty years of close observation in the field.

The ranges of the species are very carefully worked out. Especially unique is that of *Lycopodium tristachyum*, found only in eastern temperate North America, in south-central Europe and Asia Minor. "What we know personally of its occurrence here, combined with what we read of its occurrence in Europe, makes us suspect that this may be a case of a former riparian species, bordering the warmer seas, such as the sea of the Champlain period, and which might continue to live on the sands after the disappearance of the lakes and seas and the change of the dune or of the beach into heath, savanna or open pine wood. . . . The localities known in Quebec are usually situated on old shore lines of the Champlain sea."

[1] Les Lycopodinées du Québec et leurs formes mineurs, par Frère Marie-Victorin. Contributions du Laboratoire de Botanique de l'Université de Montréal. 8vo. 121 pp. $1.00.

[2] Les Filicinées du Québec, par Frère Marie-Victorin. Contributions du Laboratoire de Botanique de l'Université de Montréal. 8vo. 98pp. $1.00.

Much more is known of the group *Complanata* in North America than twenty-five years ago, which has enabled Brother Victorin to analyze the group more carefully than has been possible before. Especially clear is his description of *L. flabelliforme* as an Appalachian species distinct from, but overlapping a little in its range the more widely-distributed *L. complanatum*. "The latter is circumboreal, but not strictly circumpolar, as it is lacking in Arctic America, but it extends under one form or another into northern and central Europe, and into Asia as far as India and eastern Siberia. Besides its northern distribution in America, it occupies another definitely circumscribed area which extends along the Cordillera from southern Mexico into South America." In the group are distinguished five species, six "variations normales, géographiques, écologiques ou tératologiques," and four additional provisional varieties covering a mass of transitional material, probably of hybrid origin.

"May we not truthfully assume that this group was one of the universal elements on the floor of the great and uniform forest of Abiétinées and Cycadinées that during the Lower Cretaceous occupied North America and by the Atlantic bridge extended to the margin of the actual European continent? Later geologic history would explain well enough the actual polymorphism of the group, a polymorphism which would be due more to successive migrations and isolations than to the modifying influence of present-day conditions.

"And we should have, repeated in the limited circle of a little group of related species, the very same facts which dominate the distribution of the flora of northeastern North America."

The author, then, taking *L. sabinaefolium*, var. *sitchense* as the simplest form now known in the *Complanata*, diagrams a possible line of descent for the other forms, showing possible hybridity. This is so skilfully done that at each of the three major nodes of the diagram come forms which actually live together in the same region. There is also a similar but simpler "Phylogène hypothétique" for the *Clavata*.

As in "Les Filicinées du Québec," the systematic treatment includes very interesting notes after each species. These give all that is known of the generative cycle and the ecological relations of the species, with folklore and uses.

The characterization of species, varieties and forms is full and clear, with abundant citations, mostly of Quebec specimens. The number of minor forms described ought surely to stimulate botanists to more extensive collecting of *Lycopodium* material. There are eleven good figures and one plate in the text. There are also numerous quotations from previous students of the genus in Europe and America.

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